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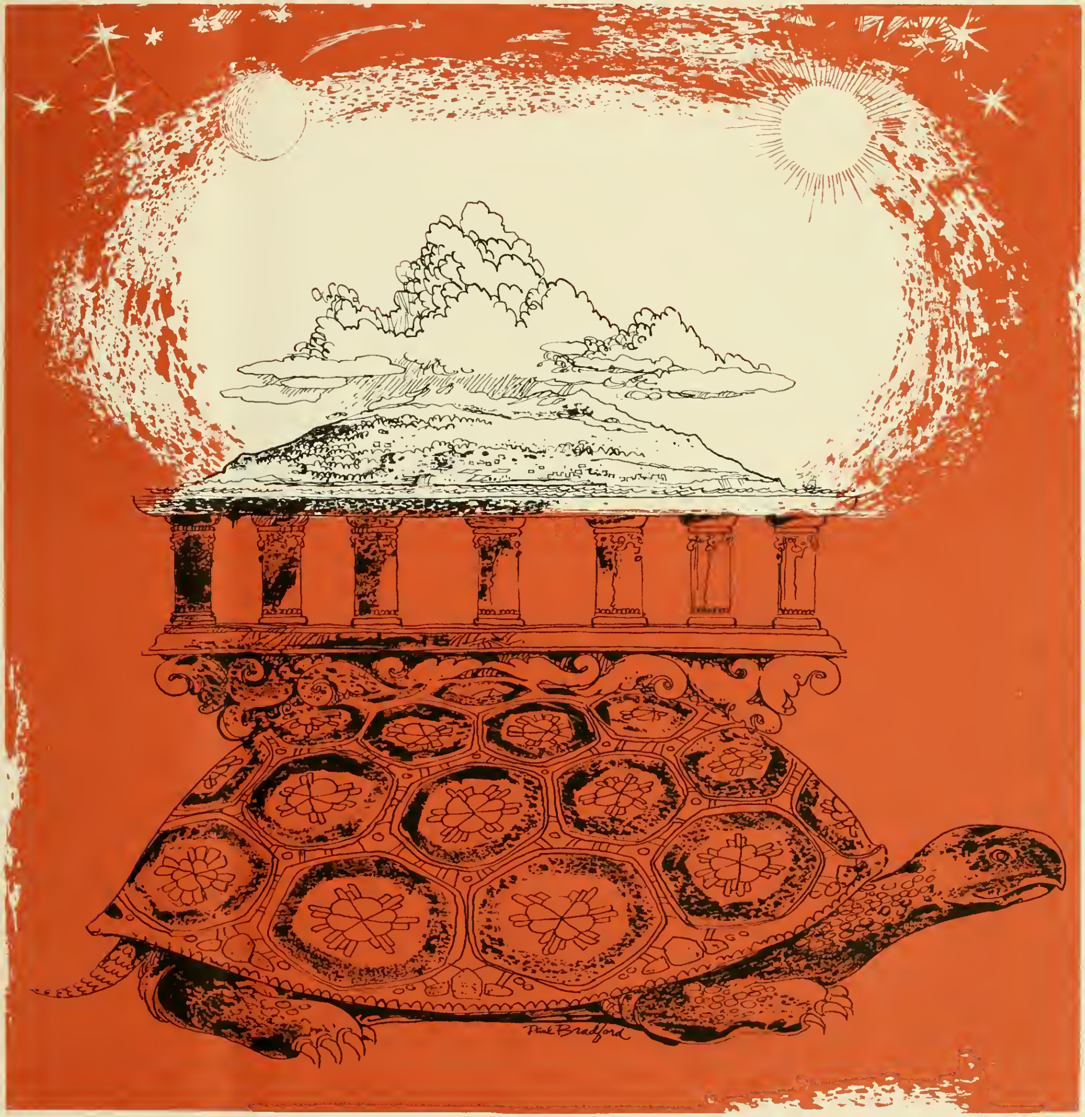
MARCH, 1977

The Ohio University

ALUMNUS MAGAZINE



The Ohio University
ALUMNUS MAGAZINE

March, 1977
Number 10

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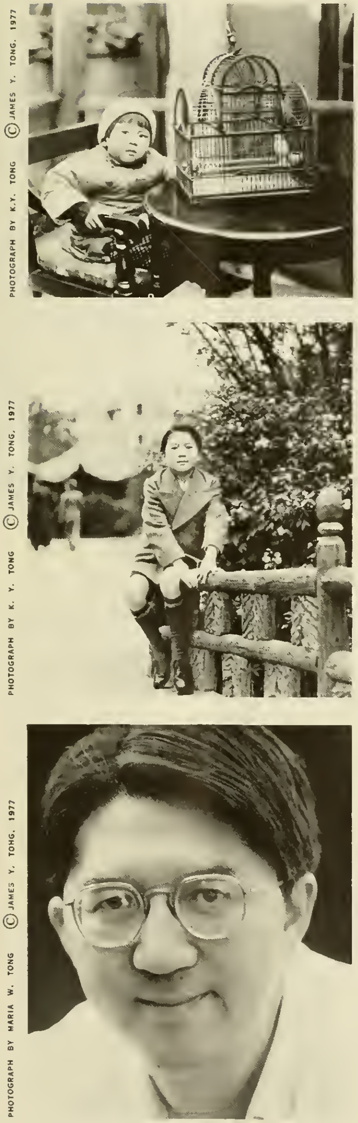
Chemistry Professor, Photographer, and Pictorial Historian of Athens County



PHOTOGRAPH BY K.Y. TONG ©JAMES Y. TONG, 1977

PHOTOGRAPH BY K. Y. TONG ©JAMES Y. TONG, 1977

PHOTOGRAPH BY MARIA W. TONG ©JAMES Y. TONG, 1977

A pictorial history of Jimmy Tong.

Chemistry professor James Y. Tong, who prefers to be called Jimmy, is a serious photographer as well as a chemist, and has been able to combine his two interests, as well as teach and and perform research. He is a serious student of early photography, and he is also an area historian, having become the conscience of the area's photographic heritage.

Tong came to this country from Shanghai in 1947. His father was a newspaperman — the graphic arts editor of the *Shanghai Times,** which was published by a personal friend. His father printed his photographs at home where he had a photography lab. In addition to newspaper work, he also owned a shop which did letterpress printing and photoengraving (which he taught to apprentices), and as a hobby he did collotype — hand printed grainless prints made from glass plates. He did many collotypes of Chinese paintings.

Tong's father was a representative of the California Ink Company, which encouraged Tong to come to America to learn to make printer's ink. The coming upheaval in China could not be foreseen, and while Tong was in America, his family was dispossessed and forced to flee to Hong Kong. These events changed his career plans and he entered college on the West Coast. Tong obtained a master's degree at Berkeley in 1951, where he thrived on the rigorous academic standards and stiff competition. He went on to obtain a doctorate from the University of Wisconsin in 1953.

Before coming to Ohio University in 1957, he worked in industry for one year, and did post-doctoral research at the University of Illinois, Champagne-Urbana, for three years.

"In 1957 there were 6,000 students on campus. President Baker knew everyone on the faculty by name. He'd stop and chat with you on the street." One sign that things have changed is the ponderous key ring Tong wears on his belt. "In those days nothing was locked."

Although he has been teaching here for almost 20 years, Tong's interest in students and their destiny hasn't changed. He has run three National Science Foundation Summer Institutes for high school students and one for college students, has been involved in Annual Science Day (local science fairs which choose entrants to the state fair), has created new freshman chemistry manuals for the last three years, and has created the program in forensic chemistry.

Forensic chemistry began by recognizing the need for a program that would provide job opportunities in chemistry for students as well as meet the national need for specialized sciences. In a survey Tong did, he found only 12 programs in the entire country that were forensic science programs in *any* of the sciences. The field he settled on was the use of chemistry in relation to law enforcement.

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*The *Shanghai Times* was the first Chinese newspaper with a sports page and gravure page.

PHOTOGRAPH BY JAMES Y. TONG ©JAMES Y. TONG, 1977

PHOTOGRAPH BY JAMES Y. TONG ©JAMES Y. TONG, 1977

The forensic chemistry program specifically involves the application of chemistry and other related sciences to the investigation of crime. Graduates can work for law enforcement agencies on any level of government, as well as for the Food and Drug Administration, the Environmental Protection Agency, the Drug Enforcement Agency, and the Occupational Safety and Health Administration. The program was first proposed in November, 1975, and got approved by the regents in record time in March, 1976. It opened in the fall of 1976, enrolling five students. Of the five, some are transfer students and some are freshmen. "I would rather have a few good students than 20 failures," Tong said.

Forensic chemistry is a rigorous program, requiring 52-54 hours of chemistry, 19 hours of law enforcement, 14 hours of zoology, 12 hours of physics, and eight hours of mathematics, in addition to substantial requirements in liberal arts.

Among the new courses Tong has created are the chemistry of photography, forensic chemistry, and toxicology. The latter recognizes the need for public health services and training in southeastern Ohio, specifically involving students in nursing and environmental sciences.

Tong continues to be involved in various research projects. For ten years, the Atomic Energy Commission has supported his basic inorganic chemistry research, in which he has been studying reaction mechanisms and thermodynamics. He has also done work on carbon monoxide in cooperation with the Physics

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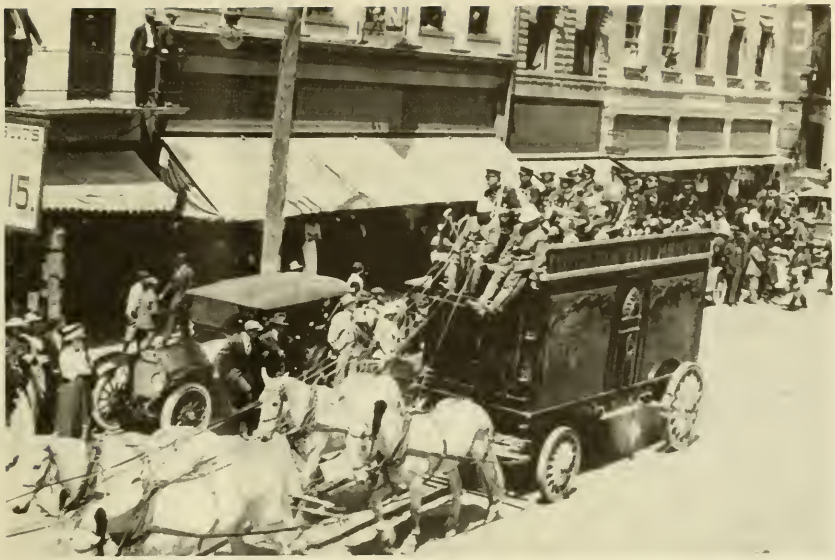
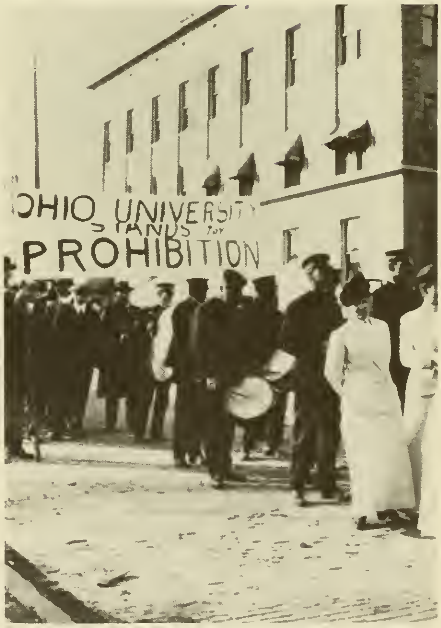


The photographs on this page, from Jimmy Tong's Athens County historical collection, show a circus wagon in 1915 and a street demonstration. On the opposite page two photos taken by Tong show a frost-formed abstract from a kitchen window, and Tong's three daughters—Maria, Victoria, and Rebecca. Victoria and Rebecca currently are students at Ohio University.

© JAMES Y. TONG, 1977



and Zoology departments, and is presently involved in studies related to local water pollution.

Among other reasons Tong chose to come to the University in 1957 was his attraction to the scenic beauty of the Athens area. He is a serious photographer who has had his work exhibited; he has taken many local pictures of natural scenes. His water pollution research took him into parts of the county he had never seen, and he always had a camera with him. He was appalled at how few of the old buildings and local landmarks had been preserved. While in England, he had noticed that although there was a greater sense of history, the English also had poor pictorial preservation.

In 1972, Tong was presented with a personal collection of old pictures by an Athens acquaintance, and his interest in collecting old area photographs began. As he became involved in studying the region, he discovered that many family photo albums wound up in bonfires as parents died and children left the area. The unusual aspect of his hobby is that he tries to make new, more permanent prints of old pictures.

Recently, he ran a contest jointly sponsored by Athens county businesses. Prizes were awarded to old area photo collections and to original photographs taken recently in the county. At present, he is planning a book which will further provide a sense of place in the area. The book would show various local sites and buildings as they once looked and as they look now.

A scene from Haight-Ashbury.
Chubb Hall, Ohio University campus.

PHOTOGRAPHS BY JAMES TONG ©JAMES Y. TONG, 1977

This project would not be Tong's first book. Recently, he edited the facsimile edition of Robert Hunt's *A Popular Treatise on Photography,* originally published in 1841. When Tong learned that Ohio University Press was planning to publish the facsimile without notes or introductory material, he intervened, volunteering to do the necessary scholarship that would make the publication valuable to scholars and to students of the history of photography.

Hunt's book was the first photographic manual ever published in English. It described all the photographic processes invented in the first two years of photography. Few of Hunt's own photos have been preserved because he was better known as an inventor, not as a photographer. His book, however, was a big success in his lifetime, going through five editions. A pirated edition was even published in this country.

It took Tong a year to do the research, which necessitated a trip to England. He was intent on tracking down all the sources used by Hunt, none of which were mentioned in the book. Eventually, Tong came up with 400 references. He also searched for Hunt's correspondence, which added a lot more detective work, both in England and this country, leading him to find an exchange of letters written while Hunt was working on the *Treatise.*

Tong tried to find all of Hunt's published work, for whatever light it might have shed on the *Treatise.* Hunt was a prolific magazine writer, publishing unsigned pieces on numerous other subjects, as well as his more authoritative work. Tong spent long hours in musty basements going through collections of old, almost forgotten magazines.

The introduction to the facsimile runs to 75 printed pages and is heavily footnoted. "Nothing I said is guesswork or speculation." Tong realized the book could be of value not only to scholars, but also to those interested in early photography. Daguerreotype and other early processes are undergoing a revival of interest.

Tong himself is engaged in reproducing some of Hunt's processes, an activity that requires extensive chemical knowledge, since many of the chemicals Hunt used are not easily obtained.

What he has learned from his project so far is that even with the simplest procedures, beautiful prints can be made. Using the same chemicals in different proportions, colors ranging from yellow to charcoal brown can be produced. Nineteenth century photographic processes *could* make nice pictures.

Recently, students in the University's School of Art have been experimenting with collotype and came to Tong for advice. Collotype is a process he has not been involved in since his childhood. In the future, he would like to relearn collotype and also do research with photographic chemicals.

When Tong left China, he was not aware that he would never return, and the only pictures he took with him were a few snapshots of himself as a child. When the family was later forced to flee, the only photographs they managed to take with them were family snapshots, which were, ironically, also mostly pictures of Tong as a child. He is embarrassed at how many childhood portraits of himself he possesses, yet admits that his three daughters have a great time with them. He hopes that someday, if he ever visits China, he might see some of his father's photographs and collotypes preserved in the Shanghai Museum.

RRF

In the 1954 Room of Baker Center groups of students collect at the appointed hours to watch their favorite soap operas.

They're starting to file in now. The men are shy. They stomp the snow off their boots and make sure none of their buddies are around before they sit down. And the women are a little embarrassed, too, because they know that the men know what they're there for. It's 1:30 in the afternoon.

And if you ask these bright, educated people why they're in Baker Center's TV lounge, they're sure to lie. They'll tell you they're waiting for a friend or they'll say they're on their lunch break and it's too noisy downstairs in the Cavern.

But these same people are here every weekday at 1:30; and nobody moves until 2:30 — not until the last chords from the theme music are heard from the continuing drama of *As the World Turns.*

The Baker Center TV lounge is filled with members of a generation weaned on television. The theme music from *As the World Turns* is a lullaby to the man sitting in front of the television, eating a peanut butter sandwich, engrossed in the show. Twenty-one years ago in Washington, D.C. his mother sat him down for his 1:30 feeding as *As the World Turns* premiered. And later, when he started school, he'd run home to watch the latest developments in Vallery Ames' murder trial on *The Secret Storm.* Habits just aren't easy to break.

Chip Letzgus doesn't lie. He'll tell you he's a soap opera fanatic, and he'll tell you why. It's because the daytime serials, with all their sex and suffering, are an oasis in television's vast wasteland.

Soap Operas

by Lori Savitch

OTOGRAPHS BY HARRY SNAVELY

Lori Savitch is a junior majoring in radio-television news. She works in WOUB's news department producing and writing features and investigative pieces for radio. She coanchors the nightly television Newswatch.

And if all that doesn't pay off, she'll write a soap opera centering on the fragile egos, the failures, and the genius of her broadcasting colleagues.

Lori hails from the great east-Philadelphian suburb of Southern New Jersey. She spent this past summer interning at Philadelphia Magazine. *Living in center city, she learned that Legionaires Disease, mayoral recall petitions, and Bicentennials can be fun.*

While in Europe this summer Lori hopes to visit Russia, from which her grandfather emigrated to America. Inspired by an Alex Haley lecture on his book, Roots, *she wants to learn more about her ancestry.*

"Soap operas are treated unfairly by those who don't watch them," Chip said. "I'd like to see that changed."

Chip is a member of Ohio University's nationally ranked forensics team. In a speech about the soap opera art form, he says that these daytime serials are the most compelling form of all entertainment.

"They provide a constant in anyone's life. When you watch a nighttime TV show, when it's over, the characters, for all intents and purposes, are dead. On the soap operas, an identification bond is formed between the viewer and the soap opera character. And they become like family and friends because the plots and characters go on and on. And on. And on."

But why do bright, young, and generally cynical college students need a constant in their lives? Chip says we shouldn't kid ourselves. We all need our security blankets.

"Getting hooked on a soap is something that just sort of happens," he said. "Once a person starts watching and finds an hour or so to escape from the fact that he or she has a lousy sex life or is flunking economics, well, it all just snowballs. And before you know it, you're a soap opera addict."

Although flunking economics isn't a big audience grabber for soap operas, lousy sex lives are. And wonderful sex lives. And the abortions that tend to follow. Mastectomies, hysterectomies, and vasectomies are big and so are rape, murder, crime, incest, venereal disease, interracial romance, child abuse, and a host of other depressing subjects. Useless? Hardly.

"In spite of their bad reputations, soap operas are not only providing an emotional catharsis, they are a vehicle for social enlightenment. They aren't just dealing with family tragedy anymore. They are dealing with important social themes," Chip said.

"What is best about the soap opera form is that it has more impact on an audience when it tells a story that deals with a social problem. For instance, if a nighttime show dealing with rape is shown, it is forgotten soon after. But the soap opera viewer who watches *The Young and the Restless* and sees the story of Chris Brooks' rape is told that story over a period of weeks and months by people that he or she views as friends. So the story has more impact and, as a result, might help our society to be better understood."

Chip thinks all subjects can and should be dealt with effectively. After all, it wasn't very long ago that the word "pregnant" was taboo on television.

"Something like homosexuality hasn't been dealt with yet. Soap operas are geared toward women in the 18- to 49-year-old age group. And daytime serial sponsors like Procter and Gamble and Colgate-Palmolive feel that the viewers aren't interested in the subject and it might upset them. After all, homosexuality is, for the most part, a taboo subject in society," he said.

O.K. So the soaps get their message across. But is all that melodrama really necessary? Why does every character speak with a pained expression as if he or she has been constipated for a month?

"Fall quarter, I didn't get a chance to watch any TV," said Chip. "And when I went home for Christmas break, all the soap opera characters sounded like little baby dolls reciting nursery rhymes. But if you watch the show and become interested in the characters, you don't think of it as trite."

"Soaps like *The Young and the Restless* and *Days of Our Lives* really perpetuate the image that soap operas have of being hokey and melodramatic. The characters speak in the strangest manner — instead of saying, 'Hi! How ya doin'?' they say, 'What's new in *your* life today?' They don't portray reality and they should," he added.

Ever notice that everyone on soap operas is beautiful? And no matter how poor a character is, she still manages a wardrobe of Lord and Taylor clothes. No one ever goes to the bathroom. Everyone wakes up perfectly made-up and with no morning breath. And nobody has a pet.

And nobody's children grow up. At least not in normal intervals. A child is usually an infant for years, then makes a few appearances as a four-year-old and then goes off to boarding school. The next time you see the kid, he or she is 18 years old and curious as hell to find out who his or her *real* father is.

"Now there's a problem with soaps that can easily be corrected," said Chip. "There have to be capable child actors out there somewhere. Children are an important part of life that could be portrayed well on TV. And elderly people are totally ignored in soaps. They serve only to come in from the kitchen or the garden and tell the younger people how to solve their problems. They have no lives of their own."

Realism. Soap opera cynics will sit back and tell you soaps lack realism as they sit down to their dose of nighttime TV. The cynic will ramble on about how unbelievable life is depicted on daytime TV. "Not every family in real life is besieged by illegitimate children and venereal disease and divorce and malpractice suits," the cynic will say, but will pause for just a moment to watch the Bionic Woman stop an avalanche with her bare hands.

"The problem with soap operas is, since the characters are constant, terrible problems happen to the same characters over and over. That's where they lose their element of reality," Chip says. "But if you isolate the situation and try to ignore the fact that it's happening to someone who's been through a murder trial, a divorce, an abortion, and a miscarriage, the events portrayed, and the time span in which they take place, are much more realistic than in nighttime television shows."

The interest generated by soap opera plots and characters goes beyond the half hour or hour during which they appear on the screen. At a magazine stand in Athens, I counted a dozen publications dealing solely with daytime television. I bought five of them and I couldn't wait to get them home. I'd read movie magazines before and I figured the daytime magazines would be as filled with sex and destitution as the soaps themselves.

I was disappointed when I got home. What I found in the magazines were generally sincere articles about the soap opera actors. The articles dealt with how the actors and actresses are similar or dissimilar to the characters they portray, and generally how life is going for them off-camera. Some articles even dealt with characters who had long since been killed off or had snapped out. Obviously, the readers of these magazines have a genuine feeling for the characters in soap operas. You don't see concern for anyone on nighttime television like that, including the figureheads of the soap operas of life — the newscasters.

Senior Chip Letzgus is a valuable member of the Ohio University forensics team. In January he led the team to a first place finish in the Fourth Annual Julep Invitational meet with a third in sales speaking, a second in persuasive speaking, a second in extemporaneous speaking, and a third in informative speaking, culminating in a first in total speech points awarded.

Incidentally, one might wonder where ABC got the famous $1 million to pay Barbara Walters. Well, she certainly isn't earning it for them. Chip says daytime TV actually pays for the high production value seen on nighttime TV.

"*Kojak*, even when it was getting top ratings was losing $50,000 a week," Chip said. "But in January, 1975, it cost NBC $175,000 to produce five episodes of *Days of Our Lives*; and they got $600,000 back in advertising revenue."

Soap operas are an unbelievably effective advertising medium. Fewer people watch daytime TV, so the advertising rates are lower. But look who *does* watch — the nation's most important group of consumers, the 18- to 49-year-old women. And the scriptwriters really hit the American housewife where she lives.

"Men are generally made to look like weaklings," Chip said. "The women are the ones who make all the family decisions and cope with the crises. The men are the ones who drink when they face a problem or who leave their wives."

The people who run the networks are no dummies. If the soap opera art form brings in the bucks during the day, it will do the same at night. *Peyton Place* was once one of television's most popular shows. There are three continuing dramas for nighttime viewers this season: *The NBC Best Sellers, Executive Suite,* and *Rich Man, Poor Man.* And, of course, by popular demand, *Mary Hartman, Mary Hartman* is with us again this season.

There are a lot of people who are insulted by *Mary Hartman, Mary Hartman* because it appears to parody soap operas. But Norman Lear's brainchild was one of last season's biggest TV hits, so there are also a lot of people who aren't insulted. Chip is one of them.

"I think Norman Lear is using the soap opera form to portray American life and social problems sarcastically," he said. "He's telling the same stories in *All in the Family, Maude, The Jeffersons,* and *Sanford and Son,* which are situation comedies."

* * *

It's 2:30 p.m. The final chords from the theme music of *As the World Turns* fade away and the empty stares on the transfixed faces suddenly snap back to reality. The Baker Center TV lounge starts to empty of the devotees of this particular story; but some people stick around. Soap operas are on all day long, one after another, and maybe today Larry and Karen will get back together again on *One Life to Live*.

For children of the TV generation, habits just aren't easy to break.

PHOTOGRAPHS BY HARRY SNAVELY

At the University's International Week bazaar in Baker Center, Zulkarnaina Mohd Mess described Malaysian delicacies to Joseph Curtin, Jr.

by Felix V. Gagliano

Recently as I strolled the streets of Kota Kinabalu, a town in Malaysia's eastern state of Sabah, a car prominently bearing an Ohio University sticker stopped beside me. A smiling young Malaysian offered me a lift. I accepted and happily renewed an acquaintance with a former student from Athens.

A month later, on a sultry tropical evening in the tiny town of Kangar near the Thai/Malaysian border in the state of Perlis, I was enjoying a meal of *satay* (savory meat bits skewered on sticks and served with hot peanut sauce) and *mee goring* (wok-fried noodles) at a small open-air food stall, when another Ohio University graduate joined me for a chat. Over several big bottles of Malaysia's excellent *Anchor* beer we discussed the delectable food, the Communist insurgents in the surrounding jungle, Malaysian politics, and inevitably, nostalgically, Ohio University.

A few weeks later in Malaysia's capital city of Kuala Lumpur, I found myself at a most enthusiastic Ohio University alumni meeting, basking in good fellowship and deeply moved by the obvious high esteem with which Ohio University is regarded.

Chance encounters? Small world syndrome? To be sure, but in Malaysia it's more than that. Perhaps in no other country in the world is an Ohio University connection more likely to be discovered and celebrated. Ohio University is one of the best-known American universities in Malaysia; no American university is regarded as making a more important contribution to Malaysian higher education. Ohio University is mentioned frequently in the national news media, its name can be heard from the floor of the Malaysian parliament, it is known and esteemed in the very highest government circles, and recognized on the campuses of Malaysia's five major universities. Nowhere in Malaysia is the University's presence felt more strongly than in the new city of Shah Alam, location of the 300-acre, $45-million campus complex of the Mara Institute of Technology (ITM). Here the O.U. Connection is not just a relationship—it's a love affair.

The Malaysian Connection:

Ohio University's Link to the World's Other Side Is a Decade Old

Ohio University's contact with Malaysia is now a decade old and has deep roots. It all began at a cocktail party in Lagos, Nigeria, in the mid-1960s. Ohio University's first major educational programs overseas had begun in 1957, in the Baker years, spearheaded by the College of Education's AID contracts with Nigeria and South Vietnam to provide teacher education and curriculum development. By 1962 a Center for International Programs was established within the College of Education to systematize Ohio University's exploration, coordination, and administration of overseas projects. Dr. Russell A. Milliken, associate dean of the college, served as director of the institute with authority to represent the University in its overseas mission. In 1967, the center was placed under a broader administrative umbrella called the Institute of International Education, with Russ Milliken as director.

In 1965, Dean Milliken became acquainted with the Malaysian high commissioner to Nigeria, a man impressed with Ohio University's Teacher Education Program for Nigeria. At a social occasion in Lagos, the Malaysian high commissioner suggested that Ohio University might explore the possibility of establishing an educational tie with Malaysia, especially in the area of business and commercial studies. When then Ohio University President Vernon Alden visited Nigeria in 1967, the Malaysian high commissioner repeated his idea and cocktail chatter became an agenda item to be acted upon.

When Provost Thomas S. Smith and Dean Milliken next visited the Ohio University team engaged in AID contract activities in South Vietnam, Malaysia was added to their itinerary. From Nigeria the Malaysian high commissioner arranged a meeting for Smith and Milliken with the Malaysian minister of education in Kuala Lumpur on March 6, 1967. After a cordial visit, the minister invited Smith and Milliken to dine at the home of Arshad Ayub, director of the then fledgling Mara Institute of Technology. Before this meeting there was a possibility that Ohio University might have linked with another Malaysian institution of higher learning; Smith and Milliken had open minds on this score. After the meeting with the amazing Arshad however, the die was cast.

Arshad is an educational entrepreneur *par excellence*. Born in 1928 in a small village near Muar in Malaysia, Arshad acquired an undergraduate degree in agriculture in Malaysia, an economics degree in the United Kingdom, and a diploma in business administration in Switzerland before entering Malaysia's elite Malaysian Civil Service in 1958. Receptive to innovation and brimming with energy, ideas, and charm, the engaging Arshad is at heart a dedicated Malaysian nationalist. In 1965 he found the vehicle to express his deep commitment to Malaysian development; he began his ten-year reign as director of the Mara (an acronym for *Majlis Amanah Rakyat* meaning "Council of Trust for Indigenous Peoples") Institute of Technology. When his dinner meeting with Provost Smith and Dean Milliken took place, Arshad was already on the way to becoming *Bapa ITM* (the Father of ITM). Through a combination of his administrative talents and his association with those in political power, Arshad was poised to lead ITM into a period of rapid and dazzling growth.

Because receptive men met at the right moment, Ohio University was to play an important role in the development of Arshad's ITM. On the morning after their initial dinner meeting, Arshad presented Smith and Milliken with a written statement of ITM's needs for assistance in staff and curriculum development.

It was Ohio University's ball again, and circumstances passed it to a new player. Dr. J. Norman Parmer, Cornell-trained professor of history and Malaysian specialist, had been hired in 1967 to head the University's Center for International Studies. With extensive field experience in Malaysia, Parmer had an elaborate web of contacts in the country. In the early 1960s he had placed four volunteers in teaching positions at the Mara Institute of Technology (then RIDA College) in his capacity as director of the Peace Corps in Malaysia. Parmer visited Malaysia in the summer and fall of 1967 and met with Arshad to discuss the OU/ITM relationship before assuming duties in Athens in January 1968, as assistant dean of faculties for international studies.

In early 1968 a tripartite agreement between the Mara Institute of Technology, Ohio University, and the Asia Foundation was drawn up whereby Ohio University would assist in training academic and administrative staff and students from ITM on the Athens campus. Partial financial support was provided by the Asia Foundation. Provision was also made for faculty from Ohio University to go to Malaysia to advise ITM on curriculum development. Professor Gilbert Stephenson played an important part in helping Dean Parmer forge this initial mutual trust agreement.

In September of 1968, the first group of six Malaysian students arrived in Athens. One was S. M. Ponniah, seeking an MEd degree in guidance and counseling. He became the first graduate of the new program in August of 1969 and returned to Malaysia to publish his thesis and to become the new head of the Guidance and Counseling Service at ITM.

By June of 1969 the first Ohio University staff member, Professor Warren Reininga, was in Malaysia teaching accounting and assisting with the development of the ITM curriculum. Professor Luther Haseley in guidance and counseling also travelled to Malaysia to serve in an advisory capacity at ITM.

In 1969 Ohio University reshuffled its international bureaucracy. The Center for International Studies, under the leadership of Dean Parmer, was created as general coordinator and focal point of all international endeavors, bringing together the Center for International Studies, the International Education Institute, the Office of Study Abroad, and the Office of Foreign Student Advisor.

As is customary in Malaysia, Noni and her baby Arlis each has only one name. To accommodate western usage, many Malaysians adopt additional names in this country.

The focus of the University's international commitments were now shifting. AID contracts in Nigeria and Vietnam were being phased out and the College of Education was decreasing its emphasis upon international education while faculty from the College of Business Administration were becoming more involved.

In 1972 the interinstitutional relationship between Ohio University and ITM was five years old. At this juncture 11 members of ITM's academic and administrative staff had received Ohio University training; of these, three were now serving as deans of colleges at ITM and two were in high administrative posts in the institute. More and more ITM diploma holders began to arrive in Athens (usually admitted as first quarter juniors) to earn their undergraduate degrees from Ohio University. The consultancy service rendered by the University to the ITM faculty had expanded; ten Ohio University faculty members had travelled to ITM—professors Roman Warmke, Dean Hummel, Ralph Kliesch, Edwin Hellebrandt, Richard French, Luther Haseley, Gilbert Stephenson, Russell Milliken, Norman Parmer, and Warren Reininga. They taught classes, planned curricula, held seminars, made evaluations, and wrote major reports.

The growth of ITM during this period was dramatic. In 1956, the Dewan Latihan RIDA, forerunner of ITM, was an experimental center providing short-courses in commerce and cottage industries to 25 English-educated rural youths. By 1972/73 ITM provided education to more than 3,500 students in an array of 56 professional, technical, and scientific courses designed to meet the manpower requirements of the nation's economic development program.

On leave from Ohio University, Professor Robert Savage joined the ITM staff for a two-year period (1973-75) to teach engineering and to consult on curriculum development.

The Mara Institute of Technology's School of Mass Communication has been developed with the recommendations of Professor Ralph Kliesch and Dean John Wilhelm of the Ohio University College of Communication; both men have spent time in Malaysia.

In June of 1973, President Claude Sowle travelled with Dean Norman Parmer to Malaysia to confer the honorary doctorate of laws degree upon Arshad in recognition of his leadership and development of ITM. The ceremony was held on ITM's new campus at Shah Alam.

The occasion of President Sowle's visit was used not only to reaffirm the University's commitment to ITM, but to explore affiliations with other Malaysian institutions of higher learning. As a direct outgrowth of the visit, 20 scholarships were extended to the University Technology and University Kebangsaan (National University) for students and staff to study in Athens.

In March of 1975 Dato Arshad resigned from ITM to become the deputy governor of Bank Negara (Malaysia's National Bank); he was replaced by Datuk Haji Lokman Musa, an able administrator with wide experience in the field of education. Arshad's resignation signaled the end of the incredible growth years for I.T.M.; the new watch word from the Ministry of Education became "consolidation." In the same year Dean Parmer resigned his post as dean of international studies to take a new position in Texas. The principal personalities who developed the Malaysia connection—Alden, Milliken, Parmer, Arshad—have all left the stage, but the programs they helped to launch continue, thrive, and expand.

Below the Malaysian flag displayed at the International Week bazaar are three Malaysian students at Ohio University: Zainul Ariff Hussain (l.) is the president of the Malaysian Students Association; Arif Bador (c.), working on an MA degree in government, is in Malaysian politics; Ahmad Khalid Yusof (r.), working on an MFA degree, is an award-winning artist who has had his works displayed in the Malaysian National Gallery.

In July, 1975 a joint degree program between ITM and the Ohio University College of Business Administration began with an intake of 30 students. Dean John Peterson and Professor Warren Reininga each played a major role in its creation. This innovative program allows students to complete the final requirements for the BBA degree from Ohio University by taking courses taught by University faculty members on location in Shah Alam. Professors James Cox and Scott Walton arrived in July, 1975, to begin classes at ITM.

In August, 1975, my wife Pauline and I arrived in Malaysia to assume ITM contract duties. During our year at Shah Alam, Polly assisted in the planning and development of ITM's Department of Music and taught classes; I taught courses in ITM's School of Law and Administration and undertook research activities related to Malaysian local government.

In January, 1976 an MA program in the field of economic education was begun under the guidance of Professor Roman Warmke. Former Ohio University president Harry Crewson travelled to Malaysia to oversee the program and to teach the first courses.

The BBA program will produce its first group of graduates in July of 1977 and a new intake of students is now in progress. The MA program in economic education which started with 15 students in January of 1976 is also healthy and sound. Ohio University professors Paul Deuster and Lane Tracy are now in Malaysia teaching in these programs.

ITM is currently in its 12th year of operation, providing education to approximately 6,000 students at the parent campus complex at Shah Alam and to over 1,000 students in branch campuses in the states of Sabah, Perlis, Sarawak, and Trengganu. Students are enrolled in an array of 66 professional, technical, and scientific courses.

After Dr. Norman Cohn, dean of the Graduate College, travelled to Malaysia in 1976 to iron out details, the scholarship program with University Technology started and expanded to exploration of other relationships; John Davis, Ohio University graduate is now on contract developing English language instruction facilities and curricula. The relationship with University Kebangsaan is also growing more cordial as their staff members arrive in Athens to utilize Ohio University scholarship money, continue their studies, and to upgrade their credentials.

Can we assess Ohio University's impact upon Malaysia? At ITM alone, more than one quarter of the institute's higher administration have received training at the University, in addition to more than a score of the teaching staff. ITM's grading policies, counseling services, business curriculum, music program, and its School of Mass Communications, all have been patterned after Ohio University models. The staff, administrative structure, and curriculum all bear marks of the University's influence. These developments have contributed to a fundamental change in educational direction in Malaysia. Until recently, Malaysia's educational institutions were patterned after the British model. The Mara Institute of Technology/Ohio University collaboration represents a shift to the American higher education pattern—deemed by many Malaysians to have greater relevance to their society. Malaysian faith in Ohio University as the carrier of this educational framework and model is unfaltering and dramatic. In

Dr. Felix Gagliano joined Ohio University in 1970 and is currently serving as chairman of the Department of Government. In 1964-65 as a Fulbright Scholar, he made the first of his five trips to Malaysia. He has spent nearly four years in residence in that Southeast Asian country. Gagliano has published a number of monographs and articles on Malaysian politics.

He and his wife Polly spent last year in Malaysia as a husband/wife team on contract with the Mara Institute of Technology, with their stairway of children (Ellen 3, Marc 7, David 11, Gene 13). The six of them speak Malay, the national language of Malaysia.

Gagliano reports: "We shared an incredible learning experience living in a tiny castle (Istana) beside a huge castle occupied by the Sultan of Selangor in a rural kampong *(Malay village) near the port city of Klang. We came home so full of stories that I'm afraid all of us were like the* Boastful Traveler *in Aesop's Fable. Do you remember the tale? Returning home after world travels he boasted so much about his experiences that his friends finally asked: 'If you liked it so much over there, why did you come back?' His reply: 'I came back to tell you about it.'"*

short, ITM has placed its faith in America through Ohio University—a sobering responsibility.

There are now scores of Ohio University graduates in Malaysia and many are already in positions of great responsibility. This expanding group of able and active alumni are upwardly mobile in all areas of Malaysian life: business and commerce, in government, and in higher education. Their influence and number multiply year by year.

Consider the case of Chandriah Appa Rao, who in 1971 became the first Malaysian to receive the PhD degree from Ohio University. Dr. Rao now serves as ITM coordinator in economic studies and chairman of its Centre of Economic Studies; he is the author of two books (one coauthored by Ohio University's Roman Warmke) and numerous papers and articles. Consider also the remarkable husband and wife team of Mohd. Zain Haji Omar (MEd Ohio 1973) who is now Registrar at ITM, and his wife Nik Safiah Karim (PhD Ohio 1975); they, too, are making a major contribution to higher education in Malaysia.

Can we assess the impact of the Malaysian connection upon Ohio University? The University has one of the highest concentrations of academic expertise on Malaysia in the United States. Our Alden Library holdings on Malaysia are superb, thanks to the efforts of Southeast Asia librarian Lian The-Mulliner and $140,000 of federal support for library acquisitions generated since 1973 by the gifted grant-writing pen of Professor Paul van der Veur. As director of the Southeast Asian Studies Program, van der Veur has played a silent role in nurturing the Malaysian connection since its inception. The program he directs is ranked by the federal government as one of the best in the country. At Ohio University a student can learn the Malay language (Malaysia's national language) and take courses in the literature, economics, culture, society, and politics of Malaysia, from recognized authorities.

Since 1967 over 35 Ohio University staff members have visited Malaysia; they have gone, some for periods up to two years, to teach, to consult, to set up new courses, to advise in curriculum development, and to tend to administrative chores. They have brought back enriched lives and insights to share with their Ohio University students and colleagues.

On the Athens campus we enjoy hosting one of the largest Malaysian student populations in America, approximately 70 students, many with spouses and children. These students come from all walks of Malaysian life: while some are powerful and wealthy, most are of humble origins and modest means. They come from all parts of Malaysia and reflect the ethnic diversity of their nation — some are Chinese, some are Indian, some are Malay. Having undergone careful academic screening, they, not surprisingly, compile sound, often excellent, academic records at the University. Their academic attrition rate is very low.

The intangible benefits of the Malaysian connection are perhaps of greatest value. We have provided an innovative, living, and expanding example of cooperative development in the mutual interest of sister institutions worlds apart. The consequent enrichment of cultural and academic life of both Ohio University and its affiliated Malaysian institutions has helped to diminish provincialism on both sides of the globe. The University and Malaysian institutions of higher learning are enjoying a valuable partnership in development.

The Chateaux of the Loire Valley

by Rebecca Clover

The clock tower of Chinon.

PHOTOGRAPH BY REBECCA CLOVER

Tours, a city of 200,000 people southwest of Paris, wedged between the Loire and Cher rivers, is more than the center for the Ohio University Spring Program in France. It is also the center of a lovely region of castles, rolling countryside, and small farming villages that make it an enchanting home base for the student of France, the French people, and their history.

The Loire River Valley region was for centuries a favorite hunting and pleasuring ground of kings and nobles. These rich pleasure-seekers left their mark in the form of the famed Chateaux of the Loire, thousands of castles throughout the area from Orléans and Gien in the east to Nantes on the sea, with Tours almost directly in the center. Though the general term is Chateaux of the Loire, they are in reality in a series of river valleys: the Cher, the Indre, the Vienne, the Loir—each has its share of chateaux.

Some of these graceful buildings are already familiar to someone who has studied a little French. Grammar books almost always contain photographs of Chenonceau, the tourists' favorite, built on a bridge right across the Cher River. Teachers of French civilization love it because it clearly demonstrates the evolution of architecture from the Middle Ages through the Renaissance.

Chenonceau starts on the river bank with a round medieval tower, with thick heavy walls and no windows to speak of except for the archers' slits. As with all medieval chateaux, this building was meant for defense first, with living within it only a secondary concern. Then one crosses from the Middle Ages into the so-called First Renaissance, by a bridge over a decorative moat. The era of enlightenment came to France early in the 16th century, and changed the nature of war and of life. The chateau became a place of pleasure rather than defense, with many windows for light and air, reflective pools rather than moats, Italian design and decorations. The square part of Chenonceau was built during this period, and it was occupied by the brilliant and beautiful Diane de Poitiers, mistress to King Henry II.

Upon Henry's death Diane was spitefully evicted by his ugly Italian widow, Catherine de Medicis. Catherine built and lived in the section across the river, which is in a style called Second Renaissance. A later Italian style, it is marked by symmetry and an almost total lack of exterior decoration.

Another of the better-known chateaux is Chambord, built by François I, the king who ushered in the Renaissance. Chambord is without doubt the largest chateau, and the chimneys and decorative cupolas that serve its 440 rooms give a strange, whimsical air to the roof, making it seem to bristle above the fairly symmetrical and heavy body of the building. The French kings stocked the lovely woods around Chambord with wild boar and stags, creating a favorite hunting ground.

Many people's knowledge of the chateaux stops here, if it goes this far. Chambord and Chenonceau get the most publicity, but there are many more chateaux, at least equalling them in beauty and interest. Ussé, for instance, is the castle that inspired the French fairy-story writer Perrault to write "The Sleeping Beauty," and it looks so much like one thinks a castle should look (high wall, turrets, towers, dormer windows) that one almost expects to see knights and ladies inside.

Some of the chateaux of the Loire seem to come right out of a Hollywood movie. The dungeons of Loches, a chateau of King Louis XI of the second half of the 15th century, are dark little holes, with no light, no air, rings in the walls for chains, and graffiti left by the unhappy prisoners. This is no movie set, however, but the real thing, where Louis' enemies were locked up for years, forgotten except for a trip from time to time to the very genuine torture chamber. Louis thought up some clever little devices, such as a cage which was neither long enough to lie down in, nor tall enough to stand in. It was suspended from the ceiling and kept constantly in motion. People were known to have spent up to 11 years in these cages. One man, who had been kept 11 years in one of the cells, was so thrilled at the sight of daylight when he was released that he died of joy on the spot.

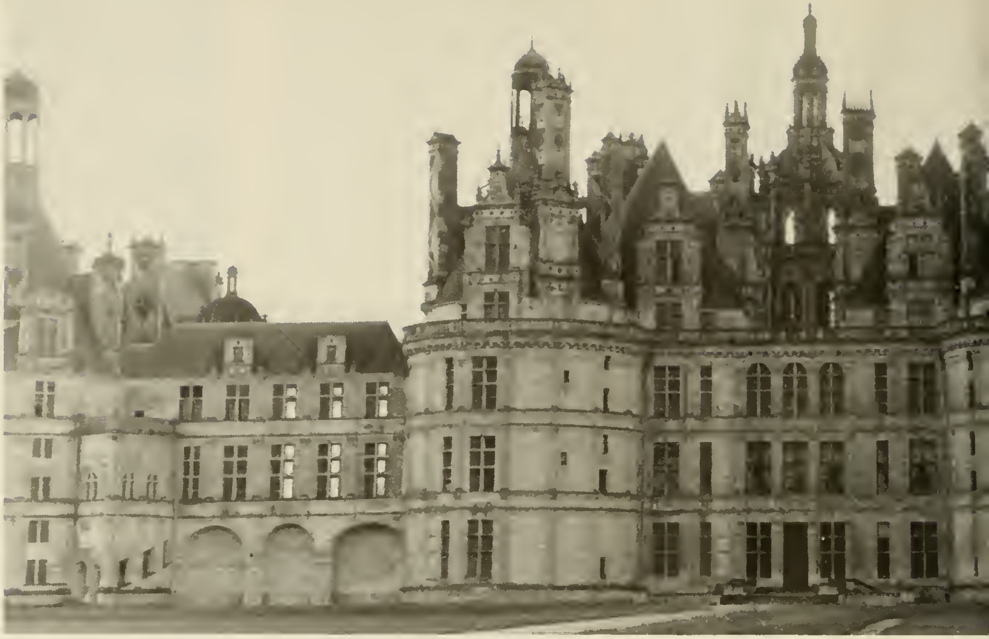
The ruined chateau of Chinon, on a height above the town of the same name on the river Vienne, is the site of the first meeting between Joan of Arc and Charles the Dauphin in 1429. The lands around Chinon were about all the King of France had left after the Hundred Years' War with England and Burgundy. He was hiding out, unsure of his right to the throne and his ability to take it if it were really his, when he heard Joan was coming. Charles hid himself in the crowd of courtiers and put another man on his seat to try to make a fool of this 17-year-old country girl from Lorraine. But to his amazement Joan, seeing the man on the chair, turned to Charles hidden among the others and knelt before him, calling him her dauphin. She then proceeded to persuade Charles to fight for his throne.

Joan was active almost entirely in the Loire Valley. Here she lifted the British siege of the city of Orléans, and forevermore is called the Maid of Orléans. It was at Loches she urged Charles to go to Reims to be crowned King of France, a necessary political move in a divided, war-exhausted country, but not very easy while the war was still active. She rode up and down the valley, stirring the French people and inspiring them to go on when all had seemed hopeless before.

In the Loire valley, though the chateaux are the main attraction, there are many other interests if the traveller becomes jaded (and there are so many chateaux it can happen). Not all the important people of Touraine were kings or warriors, nor did they all live in castles. East along the Loire from Tours is a 16th-century chateau called Amboise, down the street from which is

Rebecca Clover, a junior in newspaper journalism at Ohio University, has been studying French since the age of nine. She was with the OU Spring Program in France in 1976, and is seriously considering a career as a foreign correspondent. However, a love of movies draws her towards film criticism too. Other passions are cats, detective stories, the Middle Ages and travel, both in Europe and America. During travels in England, France and Scandinavia, she was most impressed by the great age of the towns and countryside, and the widespread evidences of Europe's medieval background. Her favorite spots visited are Sussex, Denmark and the Grand Tetons of Wyoming.

PHOTOGRAPH BY TOM OPPERMAN



The chateau of Chambord.

PHOTOGRAPHS BY REBECCA CLOVER

A statue of Joan of Arc, who first met Charles the Dauphin at Chinon.

The chateau of Azay-le-Rideau.

The Vienne River and the town of Chinon from the chateau.

a small house called Clos-Lucé. This house was the last home of Leonardo Da Vinci, who in 1616, an old man weary of war in Italy, was invited by François I to come to France. Leonardo accepted, and brought with him his notebooks full of visionary inventions (an air-conditioner, a flying machine, a helicopter) and a painting that is now the most famous in the world, the Mona Lisa. Leonardo lived at Clos-Lucé until his death in 1619, and his tomb is in the chapel of Amboise.

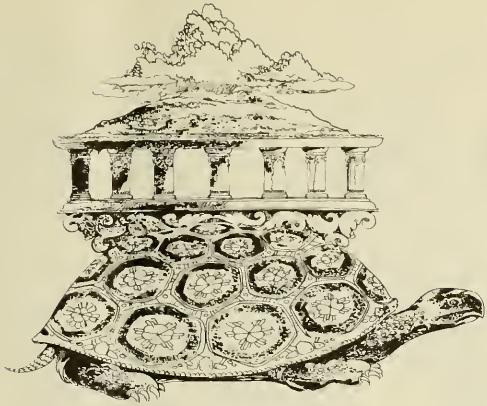
Writers from the area include Balzac, who based many of his vivid characters on the types he saw around him in Touraine. His house at Saché has been maintained as a museum. Francois Rabelais was born at La Devinière, near Chinon, and he too drew his characters and background from his native countryside. The 15th century poet, François Villon, tramped up and down the valley and makes frequent mention in his poetry of Blois, Orléans, Angers and other Loire towns.

Further away, though still near the Tours region, are many attractions within a short train or bus ride. South of Paris is the palace of Louis XIV, Versailles. Besides visiting the bewilderingly immense main palace, a series of one sumptuous room after another, filled with marble and brocade and glass and gold, the visitor can wander among the carefully planned symmetrical 17th-century gardens, complete with fountains. A little removed from the main complex are the smaller 18th-century palaces of the Grand and Petit Trianons, amid less controlled, more natural "English" gardens. Versailles is a far cry from the older, more intimate and more homelike Loire chateaux. It is also a grim reminder that this opulent lifestyle utterly impoverished the rest of the country and brought on a terrible revenge a century later in 1789.

North of Tours, on the road to Paris, is the magnificent cathedral of Chartres, a monument to the genius of the Middle Ages' architects. Chartres dates from the early 13th century and shows signs of both the early heavy romanesque style and the later, lighter gothic. The stained-glass windows, with their famous clear reds and blues, are really breath-taking seen from inside the dark towering church. ❧

PHOTOGRAPH BY KEVIN LANT

PHOTOGRAPN BY KEVIN LANT



When The Earth Falls Apart

Diseased nature oftentimes breaks forth
In strange eruptions; oft the teeming earth
Is with a kind of colic pinch'd and vex'd
By the imprisoning of unruly wind
Within her womb; which, for enlargement striving,
Shakes the old beldam earth, and topples down
Steeples and moss-grown towers.

Thus, in *Henry IV,* did Shakespeare speak of earthquakes, perpetuating Aristotle's fallacy that earthquakes occur when an imbalance of the atmosphere causes air trapped beneath the earth's surface to escape with cataclysmic force.

Other, less sophisticated, theories were even more colorful, though no more accurate, than Aristotle's. Some primitive cultures believed the earth rested on the back of a whale swimming in the "sea of the heavens". Others said the support was a huge frog, or a water buffalo, or a snake. Turtles were great favorites. Whatever the animal, there was universal acceptance that the burden would be wearisome, so occasionally the animal shifted the load, and the earth shook.

A Rumanian legend envisioned the earth's resting on the three pillars of Faith, Hope, and Charity. When one of these virtues weakened in the character of mankind, its corresponding pillar weakened, and the earth shook. The Roman poet, Ovid, claimed that the sun whirled around the earth in an erratic course. When it came too close, the earth cringed away from being burned, and the earth shook.

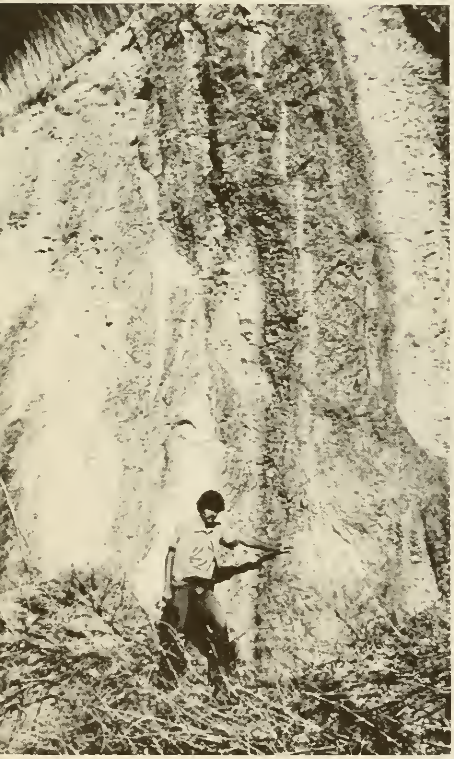
Back in the dim reaches of antiquity, primitive people were appalled when the firm, solid earth (*terra firma*, as the Romans mistakenly called it) suddenly heaved and buckled, dropped away beneath their feet, rippled like ocean waves. In defiance of what everyone knew was right and normal, the earth shook.

Caused by ancient upheavals and earthquakes along the San Andreas fault, this rock folding was exposed by a freeway cut near Palmdale, California.

Only partially completed at the time, this intersection of California's Golden State Freeway was severely damaged by the 1971 San Fernando earthquake. Geologists do not expect it to survive another quake, which could be triggered by the fault which shows as a pale streak angling down near the V formed by intersecting overpasses.

Dr. Robert Yeats (l.) of Ohio University's Geology Department, and graduate students Kermit Shields and Mark Butler (c. and r.) stand in front of folded rock strata typical of the tortured past of the San Andreas fault area of California.

This previously flat-lying bed of rock illustrates the effect of thrust faulting that Kevin Lant has found in his thesis area near the lower lobe of California's Santa Susanna fault.



PHOTOGRAPHS BY KEVIN LANT

Today we no longer are primitives. We harness the power of the elements, split atoms, hurl men and machines into outer space and retrieve them, and determine the sex of babies before they're even born. But the earth still shakes — and we can't stop it.

In February, 1976, an earthquake measuring a magnitude of 7.5 on the Richter scale struck without warning and killed 23,000 people in Guatemala, devastating the economy of that country. In July, 1976, an earthquake of magnitude 8.3 caused the deaths of at least 655,000 people in China. In November of 1976 Turkey was wrenched by a 7.5 earthquake. Italy and the Philippine Islands were subjected to strong tremors during 1976.

When people ask why these devastating upheavals happen there are no longer mutterings about shifting snakes and tired turtles (though the Aristotelean theory about trapped air still erroneously exists). We have accumulated much data about earthquakes and gain more knowledge every time one occurs. Teams of geologists and seismologists descend upon the stricken area before the ground stops shaking, and the peculiarities of the earthquake are recorded down to the most minute detail.

A typical earthquake consists of a *main shock* which is generally the most powerful and comes without warning. Thus it causes the most damage. There follows a series of *aftershocks* which are the groans and shudders of the earth as it adjusts to the strain of the main shock. Aftershocks may continue for months or years after the main shock.

Seismologists know how long it takes shock waves to travel a given distance and they can therefore calculate how far from a specific station the initial blow of a recorded earthquake fell. A circle is drawn on a map, using as its radius the known distance between the first shock and the station. As more stations follow this procedure and many circles are drawn, the location of the quake can be pinpointed by the intersection of the circles. The exact place where the earthquake can be marked on the map is known as the *epicenter*, but it represents only the surface manifestation of the quake. Earthquakes occur at considerable depth beneath the surface and the precise subsurface location of the quake itself is known as the *hypocenter* or *focus.*

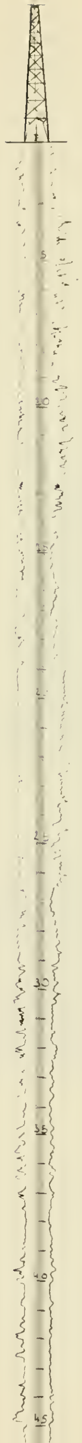
Within the area of the earthquake-caused damage, structural geologists make measurements where the ground was ruptured; record the distances where roads, fences, or stream beds were offset; note and mark down details which would escape the notice of the average, untrained observer. When the geologists and seismologists are finished the earthquake has a pedigree as long as your arm.

There are two types of scientists involved in the study of earthquakes because there are two distinct aspects of earthquakes. Seismologists record the shocks and earthwaves. They study the impact of the quakes, they deal with the aftermath. They are the ones in whose reports we read of the magnitude on the Richter scale.

The Richter scale was devised by the noted seismologist, Charles F. Richter, as a method of referring to the severity, or magnitude, of earthquakes — a way in which to refer to the amount of energy released when the shock occurs. Most people know that the Richter scale runs upwards from one, with the higher numbers applying to stronger earthquakes. The Richter scale is sometimes thought of as a sort of official ruler and many people think it has equidistant numbers, as the inch marks on a ruler. Actually, the scale is logarithmic: each number is ten times greater than the preceding one. For the purposes of example only, let's say magnitude 1 is equal to the impact of a car hitting a solid brick wall at a speed of one mile an hour. Magnitude 2 would then be comparable to the car hitting the wall at ten miles an hour; magnitude 3 would be equal to a speed of 100 miles an hour; and so forth, till we cannot comprehend what the higher magnitudes would be like in that car. And so it is with earthquakes. A geologist told me that he was within 25 miles of the epicenter of the 1971 earthquake that hit California's San Fernando Valley. It measured 6.5 on the Richter scale. He didn't even want to think about anything stronger than that, but the 1976 quake in China was 8.3, nearly a hundred times stronger, and totally destroyed an industrial city the size of Cleveland, Ohio.

The structural geologists who examine the aftermath of earthquakes do not just suddenly appear on the scene for the first time when the earth falls down. Usually they are intimately acquainted with the region and have been studying the geological formations and faults for months, sometimes years. A team of graduate students under the direction of a professor of geology at Ohio University has been studying a fault-ridden area of southern California for some time. In 1972 Dr. Robert Yeats, through grants to Ohio University from the National Science Foundation and the National Center for Earthquake Research, began a study of major, potentially active faults, in an oil-producing basin of California, relying extensively on data obtained from deep wells drilled by oil companies which were looking for, or producing, oil and gas. He is currently working with four students: Kevin Lant, Kermit Shields, Mark Butler, and Ibrahim Cemen, and with a former student, James Schlueter, who is now a full-time research assistant on the project.

An oil well or a wildcat well provides a goldmine of information to the geologist about the rocks far below the surface of the earth. The drill bit bores into the earth, through layer



After an oil well is drilled electronic devices can be sent down the bore hole to examine the rock strata and send signals back to the surface. Different rocks have different resistances to electricity and leave their distinct signatures in electric logs such as this.

after layer of rock, each layer geologically significant. Water and mud are forced down the bore hole behind the bit, and the broken-up bits of rock mix with the water and return to the surface. As this sludge is pumped out of the well core, it is collected and examined by the geologist. Given the rate at which the drill bit advances, plus the length of time it takes for the sludge to return to the surface, the geologist can calculate how deep a given stratum of rock lies. By analysis of the rock layers the geologist can gain a fairly clear idea of how the strata are folded and distorted, where they have moved, and when. With the aid of such information, the petroleum geologist prospects for oil and gas. Using the same information, Yeats and his students are trying to learn something about the earthquakes of southern California.

Tecumseh

Earthquake predictions, if they are made at all, take either of two forms. Long-range predictions are issued when activity is expected within the next year or so. Such predictions may curtail construction within the affected area, but no general exodus of the population will occur. A short-range prediction, on the other hand, means a quake is expected within 24 hours, and people are advised to leave the area. The Chinese successfully made a short-range prediction in 1975. The 1976 earthquake occurred in an area under a long-range prediction alert, but no short-range prediction had been issued.

Earthquake prediction is still more an art than a science and the methods used in different parts of the world are strikingly varied. In the western hemisphere there is a love of instrumentation and technology. Measurements are taken, charts are made, data are run through computers. In the Orient, primarily in China, the instrumentation is not as sophisticated, but there are many, many more people involved in observation, particularly of animal behavior. It is thought that animals exhibit disturbed behavior immediately prior to earthquakes, possibly because their more acute senses respond to disturbances deep within the earth. Thus, peculiar behavior in animals is used in short-range predictions. This has the ring of an old wives' tale, but Bob Yeats says it is not to be totally discounted. At the moment, east and west are about even as far as successful earthquake prediction is concerned.

One of the most successful earthquake predictions in the western world pinpointed the time of one of the strongest (though least destructive) earthquakes on the North American continent, and it was made completely without our beloved instrumentation. Tecumseh, the great leader of the Shawnee Indians in the Ohio Territory during the early 1800s, was attempting to unite the Indians against the white invaders. He traveled extensively throughout the eastern part of the continent, ranging from his home base near the present-day Chillicothe, Ohio, as far away as Alabama and Florida. Tecumseh had distributed among the tribes bundles of red sticks. Each chief who received such a bundle was told to throw away one stick at each full moon till only one remained, and then he should await a sign which could not be mistaken—a great star would sweep across the skies and be clearly visible to all the tribes. When it did they were to cut the last stick into 30 equal pieces. Each day one piece was to be burned at dawn, and the last was to be burned in the middle of the night. When the last piece was burned, an even greater sign would signal to the Indians that the time had come to rise up against the white invaders.

The comet appeared in the skies on November 16, 1811; the first blow of what is now called the New Madrid earthquake struck at 2:30 a.m. on December 16, 1811. The shaking lasted for two days. A major aftershock hit on January 23, 1812, followed by a second on January 27. A third aftershock, seeming to exceed the combined forces of the three previous shocks, came on February 13.

Because the area was sparsely populated, there was very little loss of life, but the course of the Mississippi River was altered, the ground rippled like a pond on a windy day, and the 20-square-mile Reelfoot Lake in Tennessee was formed when the ground subsided.

That the earthquake happened is recorded history, that Tecumseh actually predicted it may be apocryphal. If he really made the prediction he certainly was using some preternatural insights, an extreme form of the gut feeling which Kent Lant, one of Bob Yeats' students, says is essential to the work of structural or petroleum geologists.

But why would anyone want to go into that line of work, anyway? Imagine: Years of preparation just to spend the rest of your life chipping away at rocks. You can go to prison and get to do that. Why do Kevin, Kermit Shields, or any of the other geology graduate students bother? Indeed, why does Bob Yeats bother? The answer is a mixture of idealism, thirst for adventure, fascination with the politicking and intrigue among the petroleum companies, a love of travel and the outdoors, the comaraderie of an international fellowship, and just plain craziness.

All of the geologists, teacher and students alike, see their work as beneficial to society. Through mapping of geological faults, it can be determined which are active. This knowledge helps establish high-risk areas where it would be unwise to build hospitals, freeway interchanges, nuclear reactor plants, and similar structures the collapse of which would spell disaster.

Petroleum geologists are instrumental in the search for oil and natural gas deposits, greatly needed until alternate fuel sources can be developed. This winter has dramatically demonstrated that need, particularly for Ohioans and Ohio University.

Geologists working in an area known to be active are of great interest to the populace of the region. Bob Yeats remarked that in the midst of a noisy crowd in southern California he can say very quietly that he is a geologist studying earthquakes, and everyone in the room hears him. If he asks for a glass of water, no one hears. And there is a tinge of excitement in working on land you know is active and could fall down around your ears at any moment. As Yeats puts it, "There's a lot of geology that is ancient history, all dead and done, and our job is simply to figure out what happened in the dim, dark past. California geology is not like that at all. This is going on right now, today, and when it happens, wow! There's this tremendous force unleashed and all mankind can do is watch."

Yeats relates that his student, Mark Butler, while mapping active faults in California, lived in a trailer on the Santa Susanna fault in the back country of Los Angeles County. "There was this feeling of being on a taut bowstring, ready to snap, of tremendous potential energy deep down in the earth. It could be let loose at any time — maybe right now, maybe not for a thousand years. Around him was a pastoral scene: oak trees, cattle grazing, a Spanish-style ranch house, the chaparral rustling in a gentle breeze. Suddenly this could be

An added attraction of close study of geological phenomena is the possibility of such discoveries as this 50,000-100,000 year-old upper left molar of Pliohippus, an ancestor of the modern horse.

PHOTOGRAPH BY KERMIT SHIELDS

erased — the hills would leap and buck, cliffs would crumble, trees would snap, and people would die. It didn't happen that summer, Mark came back to seismically peaceful Athens, Ohio, and a California earthquake was once again something he might read about in the newspaper."

Yeats said he visited an old friend last September. Pete, a petroleum engineer, was building a new house in the Upper Ojai Valley, a lovely place far from the freeways of Los Angeles, where the air is clear and deer come out of the hills on a summer afternoon. Pete and his wife were painting the exterior of the house when Yeats arrived for a visit. The only thing wrong with the scene was a high scarp, or cliff-face formed by faulting or erosion, about a hundred yards behind the house. Yeats' research assistant, Jim Schlueter, had mapped the scarp earlier in the year as part of the San Cayetano fault. Jim feels very strongly that the San Cayetano fault is likely to cut loose with a severely damaging shock, comparable to the 1971 San Fernando Valley quake, even though there has never been an earthquake in the Upper Ojai Valley in recorded history. But then, recorded history in southern California is only about 200 years old, and the people in the Upper Ojai Valley have no more historical precedent for an earthquake than do the people in the Hocking River Valley. But there is the scarp in Pete's backyard, formed by movement, perhaps many movements, in the distant past. And there was the scarp on Jim Schlueter's map of the San Cayetano fault. The meaning was clear, but what could anyone do? The map was put away, Bob ended his visit, and Pete and his wife went back to their painting.

A more cheerful aspect of geological study comes from the intrigue and friendships that occur. Because the expense of drilling wells is enormous and the information gained from the rock sludge is valuable in the search for oil and gas, there is a great deal of sleuthing among geologists. There is always a hint of information seeking in the conversations. Someone alludes to vast amounts of information that would curl the hair on the listener if it were generally known. Intimations are made that what everyone thinks is geologically true of a certain area is actually much different and of great interest. Paul Bunyan and Babe the Blue Ox would feel right at home among the tall-tale tellers.

Geologists get to know other geologists from all over the world. They meet at conferences, they work together on the same projects. Bob Yeats has been deeply involved in projects in the Sahara Desert, in the fastnesses of Turkey, and in urban southern California. Last year he and a group of other "fault freaks", as he calls them, from Japan, the Soviet Union, New Zealand, Switzerland, and the United States, spent a week in a ski lodge in California's High Sierras, comparing notes on faults all over the world. "The Russians, in particular, surprised me," Yeats commented. "I had expected stocky Slavic types in ill-fitting suits and bowl haircuts, big ears, and zipped lips. Instead, we had young scientists, dressed like Americans and really tuned in to our sense of humor. Those guys were sharp and contributed a lot to our discussions. We were impressed."

Yeats has also worked aboard the *Glomar Challenger* in experiments in drilling through the ocean floor. "In what other line of work," he asks, "could you take an ocean cruise from Tahiti to Peru and get paid for it? Or spend the summer backpacking in the Olympic Mountains and get paid for that?"

PLHB

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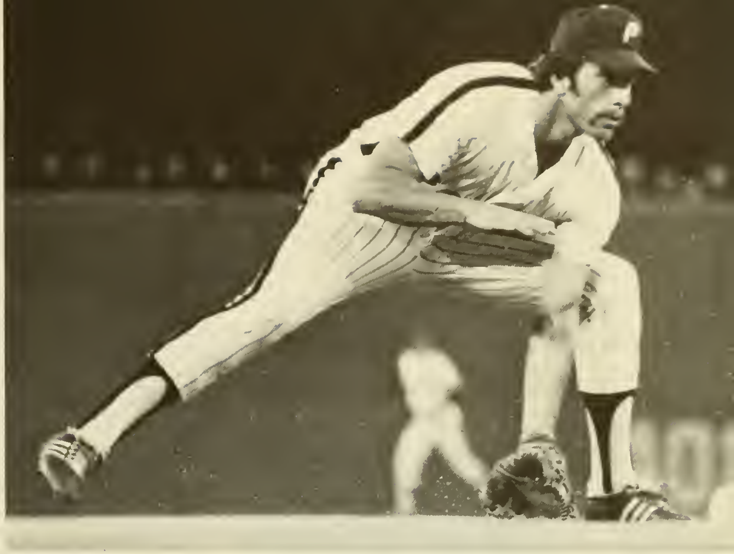


PHOTOGRAPH BY PAUL H. ROEDIG, STRATFORD, NJ.

...and the Best of the Phillies Is Mike Schmidt

Former Ohio University infielder Mike Schmidt has been a terror for the Phils this year

by Norm Blum

Norm Blum is a senior journalism major at Ohio University and will graduate in June. He is sports editor of The Post *and contributing editor to* Ohio Sports Forum.

When Mike Schmidt first went to Ohio University, he not only didn't make any waves, he barely caused a ripple. As a high school player in Dayton, he was overshadowed by another local star, Steve Yeager, now the regular catcher for the Los Angeles Dodgers. Yeager was drafted by the Dodgers out of high school; Schmidt was not, leaving him with the prospect of going to college to play baseball without a scholarship. "Schmidt is kind of a story book, a player of his stature not getting drafted out of high school," says former Ohio U. baseball coach Bob Wren.

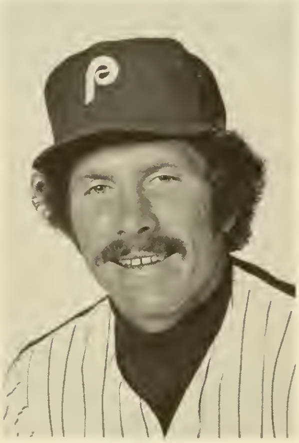
Today, of course, Mike Schmidt's career has reached tidal wave proportions. At age 26, he is not only the premier third baseman in the National League, but he is one of the best long ball hitters in baseball, and one of the biggest reasons for the success of the Philadelphia Phillies this year. This April Mike Schmidt became one of only a few players to hit four consecutive home runs in one game.

The storybook unfolded when he came to Athens in 1968 and Schmidt hasn't forgotten who was responsible. "Bob Wren and his baseball program had the biggest impact on my life," Schmidt says. "I was impressed with Wren and I wish he was given a chance to manage in the big leagues." Such compliments can make even Wren blush. "That's very nice of Mike, but I'm very happy with what I'm doing here now," he says.

Wren, 55, is an assistant director of admissions at Ohio U. after coaching baseball for 24 years. During his tenure, Ohio U. sent over 50 players to the professional ranks including catcher Steve Swisher (Chicago Cubs), pitcher Tom Murphy of the Boston Red Sox, infielder Terry Harmon of the Phillies and shortstop Rich McKinney who played for the Chicago White Sox and New York Yankees. It was Wren who apparently spotted something in Schmidt that nobody else had. "He wasn't outstanding then," Wren says. "He hit a long ball occasionally, but was not impressive in high school for the pros. He was inconsistent as a high school senior but thought he could play college ball."

With this in mind, Wren recruited Schmidt for Ohio U., aided by former Mid-American Conference Commissioner Dave Reese. Reese, from Dayton, knew about Schmidt from his play at Fairview High School, and more importantly, Reese was a close friend of Schmidt's grandfather. Though Schmidt eventually chose Ohio U., it wasn't because of the money, in fact he went without a scholarship. "He was initially recruited with the promise we'd try to help him (financially) and we did," Wren says. "We didn't have the money to recruit him. The reason we got him was because of the programs at Ohio U."

PHOTOGRAPH BY PAUL H. ROEDIG, STRATFORD, NJ.



Mike Schmidt

When Schmidt enrolled at Ohio U. in 1968, he was a switch hitter and as a freshman, he didn't even hit .300. In the autumn of his sophomore year, Wren convinced him that switch hitting was not the answer and to simply concentrate on batting right-handed. "His swing lefthanded had too many flaws," Wren says now. "He was upper-cutting the ball. He didn't have a good, flat swing." Wren promised Schmidt he could return to switch-hitting if the experiment failed. "Once he knew what you were talking about he was willing to go along with it," Wren says. "He hadn't had a whole lot of success either way his freshman year."

Looking back, Wren recalls some indecision on his part at the time. "Sometimes I wondered when I did it, if it was the right thing," he says. After Schmidt led the National League in home runs two consecutive years and tied the major league record for most home runs in the month of April, the wondering by Wren ceased.

Still, Wren won't accept the credit for Schmidt's success as a right-handed hitter. "If you batted left-handed and never saw a curve or slider from the right side, it's quite an adjustment," Wren says. To make the transition, Schmidt had to work and work hard. "Mike was willing to do it; we never forced him; he worked hard on it," Wren says. "In the off-season he probably hit more balls off the batting tee than anyone else at Ohio U. He'd drive hundreds and hundreds every night.

"By the time he was a senior, he could hit the ball off the batting tee with a weighted bat better than most guys could with a regular bat. I always felt the fact that he was concentrating on hitting from the right side developed his stroke. If you're going to have a good swing, you don't just swing the bat 20 times."

As for Schmidt, who graduated from Ohio U. in 1972 with a general degree in business, he realized the move was a success when he hit a home run against Mid-American Conference rival Miami University. Although he was aware early that he had the strength and ability, he says Wren gave him the opportunity to hit from his natural side.

Between his freshman and senior years, Wren says Schmidt's strength increased by 50 per cent. "His home runs hit the scoreboard," he says. And while the aluminum bat was illegal in college baseball, Schmidt would use one in practice and it was common for him to bounce one against the skating arena at Ohio U., a blow of considerable clout.

By Schmidt's sophomore year, Wren realized that he had major league potential. "Even his fielding improved," Wren says. "I always hit fungoes and he'd always get the bat and bring it to me. I couldn't hit him enough fungoes. Fielding-wise, he wasn't the best. He worked real hard and at the end of fall practice he was our shortstop."

With Schmidt in the lineup, Ohio U. won four consecutive Mid-American Conference titles and was twice named All-America. In his junior year, Ohio U. finished fifth in the NCAA tournament, beating powerful Southern California 5-1, a Trojan team that included first baseman Dave Kingman, now of the New York Mets and who finished second to Schmidt last year in home runs. Schmidt still holds Ohio U. single-season records for most runs (45), doubles (13), home runs (10), bases on balls (38) and assists (152).

If Wren could find a fault with Schmidt, it's that he was too patient as a hitter. "He always had a good eye, but he was too particular," he says. To force him from that habit, Wren would flash hit-and-run signs to Schmidt on 3-1 counts with the bases empty.

"I don't recall that," Schmidt counters today. "It's a good banquet story."

If Wren refuses to take credit for Schmidt's success, he says he is proud of the fact that Schmidt graduated from Ohio U. with a degree in business administration. "He has the degree, which is very important," Wren says. As for Schmidt, he says the four and one-half years in Athens were the best part of his life. "I would never trade it in for anything," he says. "I had so many good times, I can't narrow it down to just one."

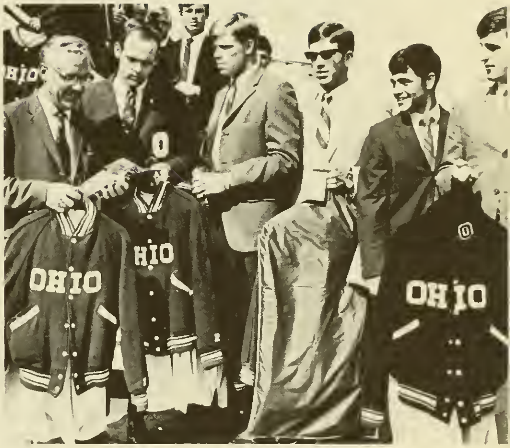
A member of Beta Theta Pi at Ohio U., Schmidt was known to frequent the Lantern, a local pub, although he denies it was his hangout during his college days. "I think my favorite place was Grover Center, to tell you the truth," he says. "I spent more time there and wasn't even a physical education major." Grover Center is the former basketball fieldhouse at Ohio U. and is now a student gymnasium.

One of those who got to know Schmidt best was his former roommate, Ron Morrison, who is now a teacher at Lancaster Junior High School. "He was really hard to get to know," Morrison says. "He was always the center of attention and always well-respected." What did impress Morrison was Schmidt's confidence in himself as a baseball player. "We were sitting in the bedroom which had posters of Bob Gibson and Tom Seaver on the wall and he said, 'One day I'm going to hit a home run off those guys.' Sure enough, he did."

During his senior season, Schmidt attracted a parade of scouts, sometimes as many as 10 to 12 for every game. Wren says that the Phillies were fortunate that he was still available on the second round of the 1972 free agent draft.

The upcoming draft was a source of a practical joke by Schmidt's roommate. "He typed a letter which looked real formal (from the Houston Astros) and put it in the mail," Schmidt recalls. "I read it and got all excited and then found out it was a big prank. The guy had no idea of the impact it had on me. It was a real letdown. I admit I looked like a dummy." ♂

PHOTOGRAPH BY HARRY SNAVELY



Prior to leaving for an out-of-town game in the late 60s, Coach Bob Wren (left) distributes tickets to his players (l. to r.) Mike Hannah, Craig Shade, Mike Schmidt, Joe Petitto, and Bob Morgan.

Making close to the $100,000 mark a year, Schmidt can hardly be called a dummy, although after his rookie year with the Phillies there were those who had to wonder if he'd be around long enough for a pension. Schmidt hit a paltry .196 for Philadelphia as a rookie and even had ideas of going back to switch hitting. When Wren learned of the idea, he talked him out of it. "I wasn't playing," Schmidt says. "I was sitting two days, playing one and played ninth innings for defensive purposes. I couldn't get going. I wasn't sure if I ever would."

Schmidt soon proved it was a freak year. He led the National League two straight years in home runs with 34 and 38. Naturally, that sort of thing is an attraction for writers and broadcasters and Schmidt has been bombarded by them. And, in nearly every interview, Schmidt says he goes out of his way to mention Ohio U. "I always try to remember where I came from. I wasn't much of a talent."

Schmidt does not actively recruit new baseball talent for Ohio U., although his name appears throughout the school's baseball brochure. "I'm glad to be a part of it and don't care how often they use my name," Schmidt says. "Whatever I can do to give kids the opportunity to play ball at Ohio U. like I had, is all I want to do."

The name is appreciated by the current Ohio U. baseball coach, Jerry France. "No question about it. Mike Schmidt gets more publicity for Ohio U. that makes national news than anything else," France says. "If Schmidt comes to town (Cincinnati) he gets the billing."

The Ohio U. coach said Schmidt's best attribute is his cockiness. Schmidt admits to it himself. "Everybody in the majors is cocky," he says. "That's part of the reason they got there. It sounds bad, but I've always been that way and that's one reason I've been as successful as I've been."

Schmidt hits his share of tape-measure home runs, but they are only a part of his success as Schmidt is regarded as an outstanding defensive third baseman. In fact, France goes so far as to say he is the best all-around athlete in major league baseball. "He's big, he has good strength, a good arm, is an outstanding fielder and very few guys can come close to him in anything," France says.

The drawback to the whole thing is that Schmidt still has a tendency to strike out too often. He even claims he is the easiest out in the league in between home runs. "Last year I hit .300 for three and one-half months and .180 for three months," Schmidt says. "One of these days I'll put it together."

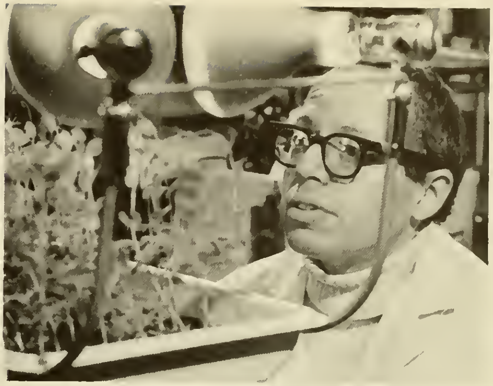
The early season blast-off with four home runs in one game began to attract writers from everywhere in the country. In fact, his lockermate, Terry Harmon, another Ohio U. star, says the Phillies should build a separate room to accommodate Schmidt's press conferences. "If I'm successful, that's part of it," Schmidt says. "I try to keep the press happy the best I can. During my spare time, I don't like to be bothered." The massive publicity led to some speculation about Schmidt being a new Babe Ruth. "Some nut truthfully believes I can hit 62 homers and another reporter asked if I can hit 75," Schmidt says.

Well, one can always try. ❧

Can Plants Feel?

Experiments in the Sensory Physiology of Plants

PHOTOGRAPHS BY HARRY SNAVELY



In the last few years, several researchers have been claiming to show, with the use of lie detectors, that plants display emotional responses. Scientists attempting to recreate these experiments have failed to obtain similar results, according to Mordecai Jaffe, professor of botany at Ohio University.

While plants may not have emotional responses as such, Dr. Jaffe's recent research has shown that plants, in fact, do have complicated reactions to environmental stimuli, and that these reactions may employ the same chemicals that are found in the central nervous systems of higher animals. Much of Dr. Jaffe's research has been opening up entirely new areas of study, and some of his work has been the subject of a British Broadcasting Company documentary filmed on the Athens campus.

Mark Jaffe came to the University in 1967 from Yale where he had been teaching and doing research. He had previously received his PhD from Cornell. While he had been interested in plants and touch for years, a Strasbourg (France) conference in 1973 crystallized specific areas of investigation. On returning to the University, he established the Laboratory for Sensory Physiology, which became the base for his various projects.

Plants sense changes in their environment, reacting to temperature, light, chemicals, gravity, and changes in pressure. Jaffe became interested in studying plants' mechanisms of perception, mechanisms of response, and the ways in which both are connected.

Both the sense function and the response function are linked by one or more transduction steps. Transduction means a conversion of energy. For example, in the venus flytrap, the energy which actually causes the plant's motor response is not the mechanical rubbing of the fly. Mechanical energy is converted to electrical energy — a nerve-like impulse which is in turn converted to chemical energy, which is then actually used to perform the motor function. Jaffe's interest focuses on the senses of light and touch. He has been working on several projects in both areas.

One project involves the way plants respond morphogenetically to light. (Morphogenesis means a change in form. For example, when a vegetative bud becomes a flowering bud, it is undergoing a morphogenetic change.) Jaffe's work studies photomorphogenesis or those changes in form resulting from exposure to light.

Albert Einstein had said that no photo chemical reaction can occur unless the energy in light is absorbed. One of the great 20th century discoveries in biology was the discovery by two US government biologists, of the pigment phytochrome, which absorbs light. The pigment protein complex is found in all higher plants and it is involved either directly or indirectly in almost every activity of a plant.

One of the important problems that had to be solved, in order to be able to study the response mechanism in plants, was to locate the pigment in the cell. Using powerful biochemical techniques, Jaffe was able to show that phytochrome is associated with all the membranes in a cell: the nuclear membrane, cell membrane, chloroplast membranes, etc. The pigment activates or deactivates various functions of the membranes. For example, the mitochondrial membrane controls the respiration of the cell, and respiration increases with light. The synthesis of gibberellic acid, a plant hormone, is another process in which the pigment phytochrome is now known to play an important role. The plasma membrane, the cell's gatekeeper (limiting and controlling molecular movement in and out of the cell) is also controlled by phytochrome.

♂

Dr. Mordecai Jaffe

An interesting aspect of this work concerns acetylcholine, which is known to be one of the most important chemical messengers in animal nervous systems (that agent which jumps the gaps between nerve cells). Jaffe first identified acetylcholine in plants, and then discovered that the amounts of acetylcholine in plants increased as they were exposed to light. He was able to identify an enzyme that manufactures the acetylcholine, and traced both phytochrome and the enzyme to one tiny fragment of a membrane. The isolation of both phytochrome and acetlycholine now make it possible to analyze the mechanism of response in plants.

Jaffe first became interested in plants and touch at Yale, where he experimented with plant tendrils, the grappling hooks put out by weak plants such as the pea. Since then, he has been interested in the physiology and biochemistry of plant tendrils.

Last year he had an undergraduate student studying the moss rose, a desert plant which opens in the morning and closes in the afternoon. The stamens of the moss rose, when stimulated by visiting insects, will deposit pollen on these insects. There are ten different species with either stamen or pistil performing this movement, which takes only about three seconds to occur.

Jaffe's work concerning touch, which was the subject of the BBC film, came as a result of asking what happens when any ordinary plant is rubbed. He found that there is a great response. He began by rubbing his hands through greenhouse foliage, finding that the stimulated plants were stunted. This was a general phenomenon affecting all plants. Some plants were even affected reproductively and some displayed other responses. One variety of tree known commonly as sweet gum became dormant when shaken. The common weed, cockelburr, died when rubbed.

Jaffe named the plants' reaction to touch thignomorphogenesis, which means a change in form as a response to touch. He measured plants' electrical resistance as well, and found that the resistance dropped rapidly when plants were mechanically stimulated, showing that plants respond electrically to touch, and that part of a plant's sensory apparatus is electrical.

Except for pea plants, all plants respond to mechanical stimulation or in practical terms, respond to the wind. Greenhouse plants grow taller and thinner than outdoor plants, which are shorter and stunted in comparison. The only difference in the greenhouse is the lack of wind. In Sweden, an experiment was tried in which some pine trees were tied down with cables, preventing them from bending in the wind. These trees grew much taller, but when the cables were removed, the trees cracked and were blown over. The taller trees, not having the opportunity to respond normally to wind, were unable to cope with the stimulus when exposed to it.

One early account of thignomorphogenesis that Jaffe has been able to locate is in a book published early in the century by the US Department of Agriculture. In 1908, the south's cotton crop was being demolished by the boll weevil. When all else failed, farm owners had their laborers beat the plants with sticks to dislodge the insects. The bugs weren't shaken loose, but the plants were stunted as a result.

Thignomorphogenesis also applies to roots and shoots which are mechanically stimulated by friction in growing through soil. Charles Darwin performed an experiment in which he attached a piece of mica to a pea root, forcing the root to grow in a circle. Jaffe recently found that the helical patterns found under the bark of tree trunks indicate that in response to the wind, trees twist upward as they grow. Those trees, such as certain palms and pines, which are exposed to great wind stimulation, will have increased helical patterns.

The only thignomorphogenetic research as such that Jaffe was able to locate was a study done in the 1950s on the effects of trampling plants in national parks. Those plants that didn't die adapted by changing form, becoming tough-skinned and flat. A city dweller has only to examine those plants which grow between sidewalk cracks to find a vivid example of this adaptation.

Jaffe is presently planning to collaborate with Professor Frank Salisbury of Utah State University to study the effect of wind on plants at the timberline in the Wasatch Mountains surrounding Salt Lake City. It has been assumed for many years that plants at the timberline are stunted because of winds, and because of the ice and snow. Jaffe and his colleague want to isolate the effects of the wind to see how much stunting the different stimuli cause, and to measure as well all the environmental conditions. The project not only concerns the biochemical and physiological reactions, but the natural history and ecology of the entire situation. Jaffe and his colleague will attempt to reproduce their findings in laboratory situations.

Another aspect of Jaffe's interest in plants' response to touch is to study the effect of plant stimulation on other plant responses. He found that when a bean plant was rubbed, it displayed no phototropic response. An increased amount of light will induce a response, but not a very noticeable one.

Jaffe has been receiving the most rewarding recognition a scientist can receive — other researchers are beginning to follow the various leads he has opened up. As a result of his recognition, the National Aeronautics and Space Administration has contacted him concerning possible future experiments in outer space. The proposed "orbiter three" will be a true space lab. Scientists in different fields will be ferried with their equipment to and from the lab, and Jaffe hopes to be one of those scientists.

Contrary to the popular image of the scientists as being narrowly specialized, Jaffe has many other interests. He and his wife and their three children are amateur archeologists with particular interests in the American southwest and the Middle East. They are avid travelers and have visited each region. "It wasn't until I went to the Holy Land that the Bible was anything more than children's stories for me," he said. "But the archeological verification of places and events is there." The Jaffes have also traveled widely in Europe as well as the US, and during a visit to the Seattle aquarium, he had the surprise of witnessing his eight-year-old daughter receiving a gentle kiss on the lips from a killer whale leaping out of the water.

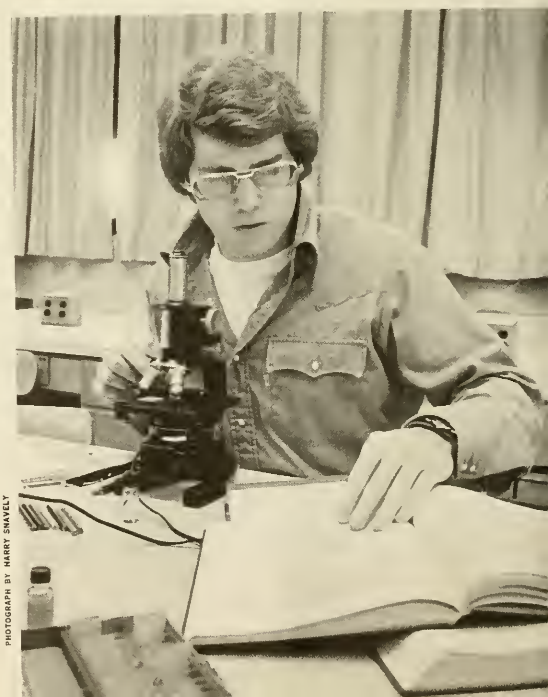
While in college doing undergraduate work at the City College of New York, Jaffe was interested in writing, and later, had a painful decision to make in choosing a career as either a scientist or a writer. Though his only writing in recent years has been for scientific journals, he has recently begun writing fiction again. At present he is writing a novella.

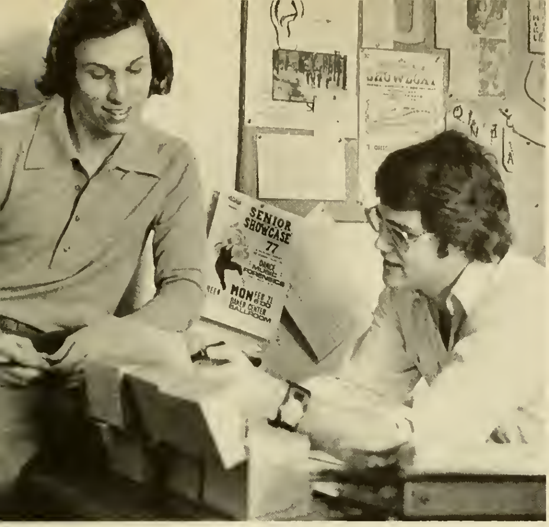
The BBC's "Horizons" program filmed in Jaffe's lab will feature some of his work on the reaction of plants to touch. It will be shown in England in the spring of 1977, and some time in 1978 it will be shown on public television's "Nova" program in this country.

While it has been known that plants do react to different stimuli, the sense and response mechanisms have always been a mystery. Jaffe's research has begun to clear the mystery, making it possible to study very closely how plants sense changes in their environment, and how they respond to these changes. *RRF*

PHOTOGRAPH BY TOM GOFF

Above, the plant therapy program at the Athens Mental Health and Mental Retardation Center involves patients and student volunteers such as Mike Tobin (r.) in meaningful cooperation. Laboratory work, right, is a major aspect of Mike's medical technology studies, but still finds time for his work-study duties with fellow student Jim Mikkala, opposite page.


PHOTOGRAPH BY HARRY SNAVELY



Michael Tobin

All too often the students whose names and faces appear in newspapers (and who are then thought to be typical of the entire student body) are the rabblerousers and troublemakers. Ohio University has had its share of them. We have had streakers, brickthrowers, street parties that got out of control, and sit-ins in administrators' offices. We are not the only university that has had these problems, but to our alumni we are the only university that matters.

Thinking back to your own days in Athens you'll remember that there are other, far more typical students on campus. The primary reason their pictures are not splashed all over the front page is that they are *students* and are much too busy for sensationalism.

One such busy person is Mike Tobin. Mike, who will graduate in June, is one of those individuals who seem to gain energy from expending it. His schedule is unbelievable, and he still maintains a 3.2 grade-point average.

Mike transferred to the Athens campus after finishing a two-year program at the Lancaster regional campus. He is working on a dual degree, in medical technology and psychology, and plans to pursue the medical technology field.

Betty Menson, director of student services at the Lancaster campus, was Mike's academic advisor when he first enrolled, and he later worked in her office. Ms. Menson says that one of Mike's outstanding characteristics is his ability to relate to people. Though he is one of the busiest people she knows, she has never known him not to have time for friends and fellow workers.

As one of 10 children (six of whom have attended Ohio University-Lancaster), Mike has had to finance most of his education himself, through scholarships and work-study. His appointment as a file clerk in the Office of Student Services on the Lancaster campus raised a few eyebrows since he was the first male to get such an assignment, but it seemed more extraordinary to other people than to Mike. He just laughed off the teasing and got his work done.

Mike's transfer to the Athens campus meant increased expenses and he was recommended for and was awarded the David Johnstone Scholarship. This scholarship, established by the parents of a Lancaster High School graduate who was killed in Vietnam, assists Lancaster students in the move to the main campus.

To supplement the scholarship Mike works as a student intern in the Office of Student Life Programs and has masterminded a variety of projects. He worked closely with the plant therapy program for patients at the Athens Mental Health and Mental Retardation Center in Athens. He supervised the Student Senate elections during fall quarter, spending almost 24 consecutive hours in the monitoring of the polls, counting ballots, and tabulating election results. He is working with Betty Menson in developing an orientation program designed to ease the transfer of relatively sheltered regional campus students to the main campus where they are rather less protected.

But as Mike puts it, "I work hard and I play hard." He has been in basketball and water polo intramurals, he parties like any other student, he plays the guitar in coffeehouses. He doesn't stop. He's too busy to end up on the front page.

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